08620P 1502.240

FIG. 1

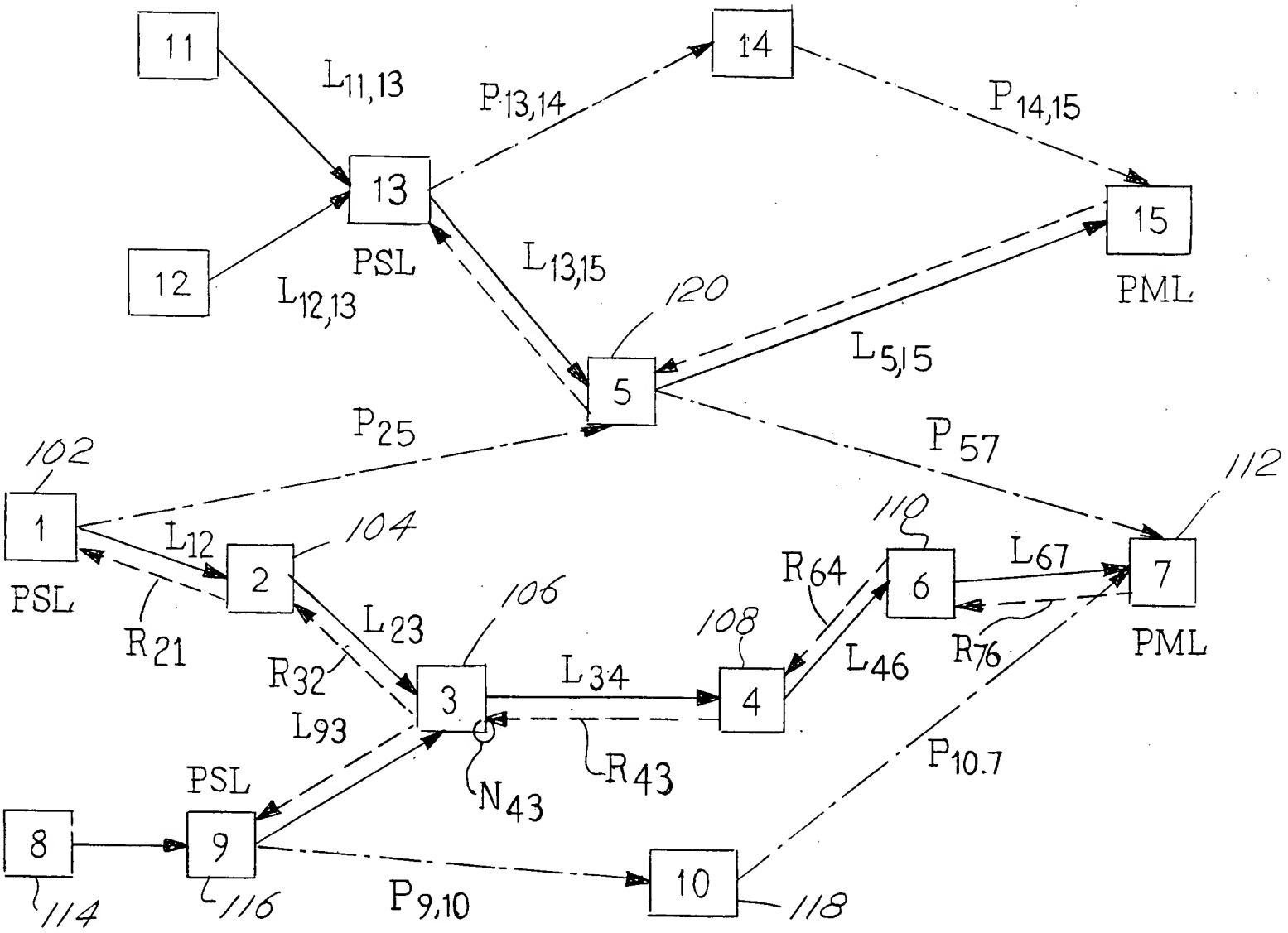
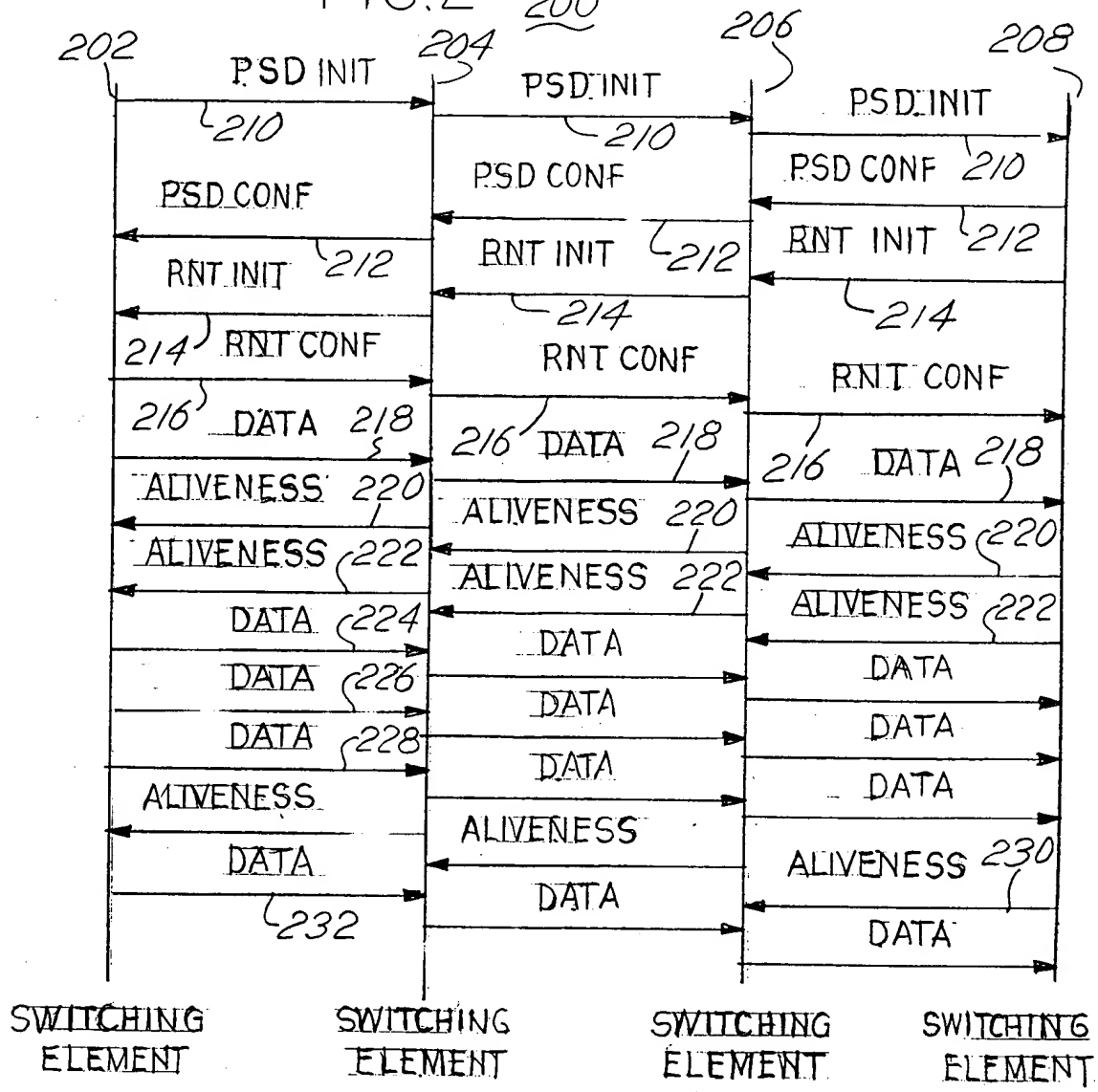


FIG. 2



PSD=PROTECTION SWITCH DOMAIN (ESTABLISHMENT OF THE WORKING AND PROTECTION PATH: IDENTIFICATION OF SWITCHING ELEMENTS)

RNT=REVERSE NOTIFICATION TREE (ESTABLISHMENT OF REVERSE PATH FOR NOTIFICATION OF ALIVENESS)

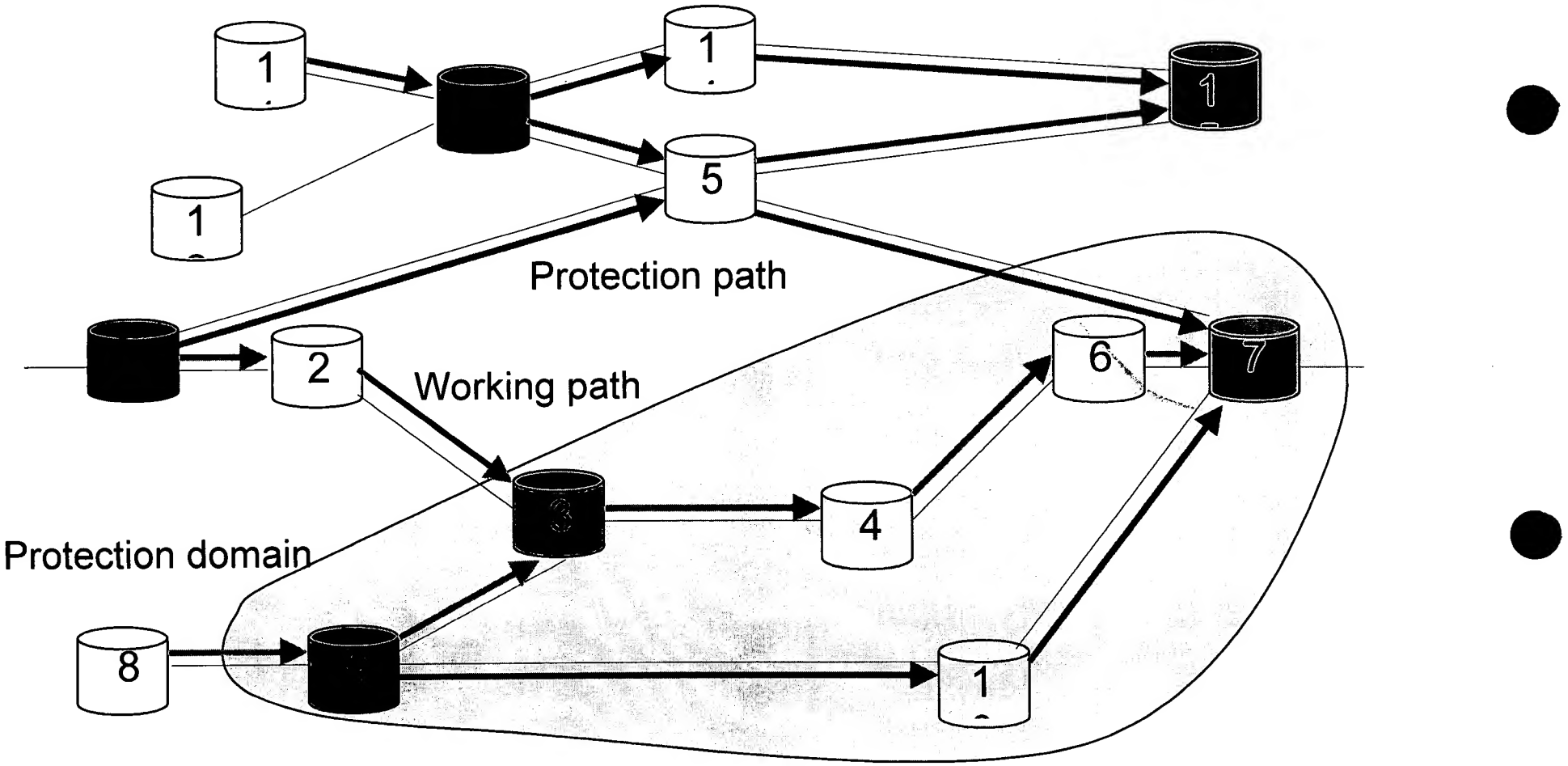
INIT=INITIALIZE

CONF=CONFIRM

DATA=DATA FLOW

ALIVENESS=NOTIFICATION OF WORKING PATH STATUS

Figure 3


1
1
1
1
5
Protection path
2
Working path
6
7
3
4
Protection domain
8
1

20020207 T30936A0

Figure 4

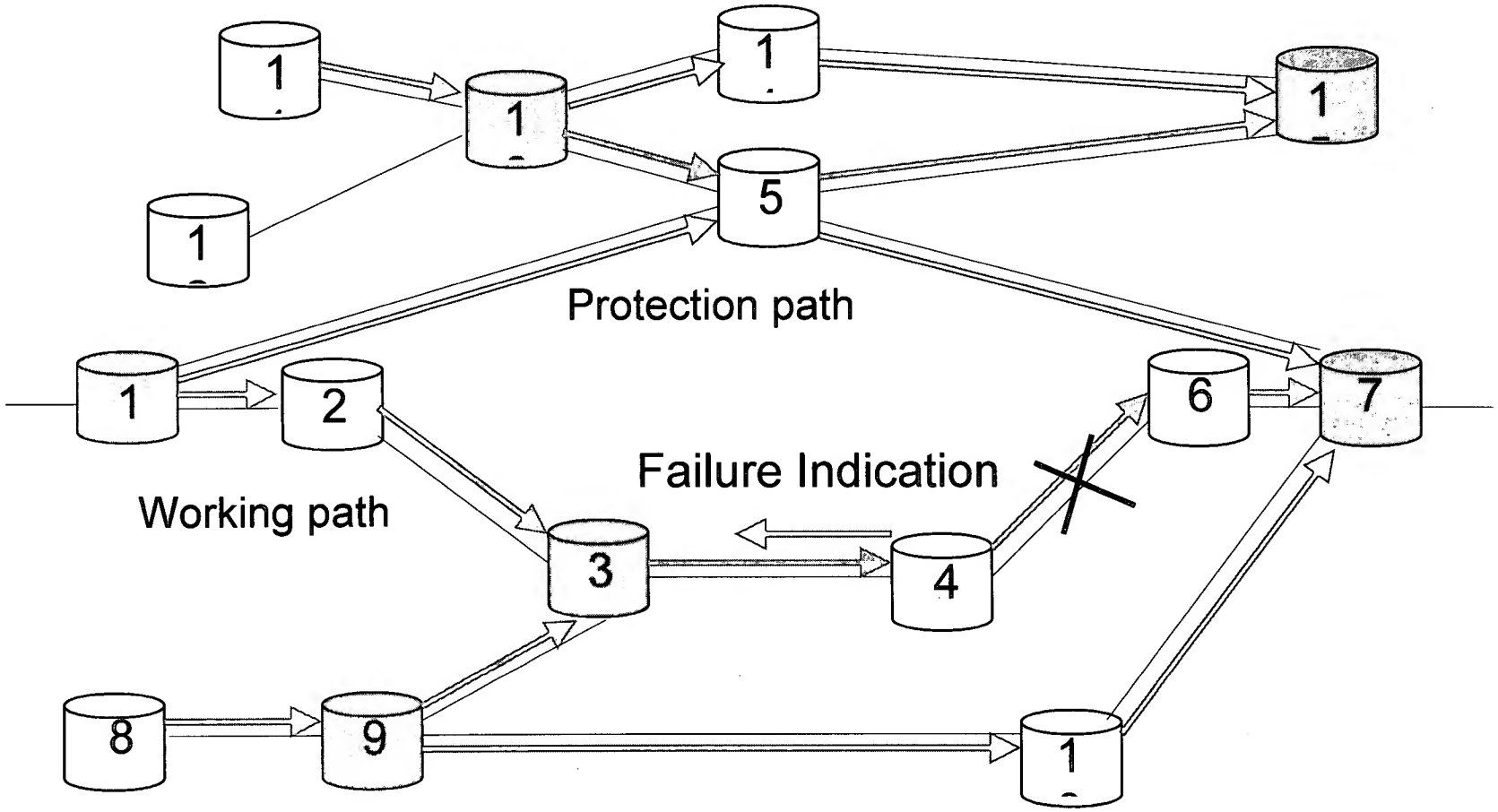


Figure 5

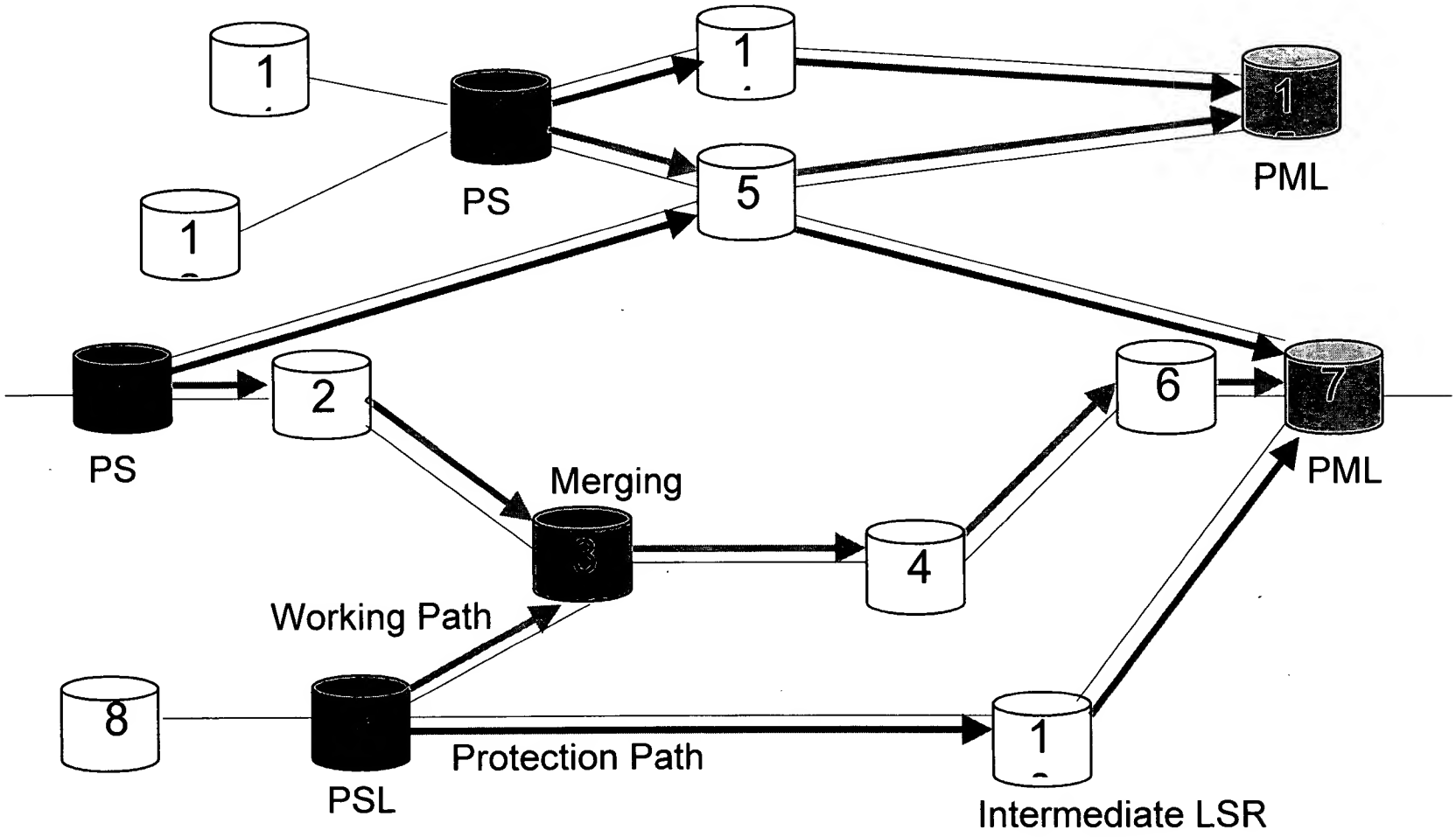

1
1
PS
1
5
1
PML
2
PS
Merging
3
4
6
7
PML
Working Path
8
PSL
Protection Path
1
Intermediate LSR

Figure 6

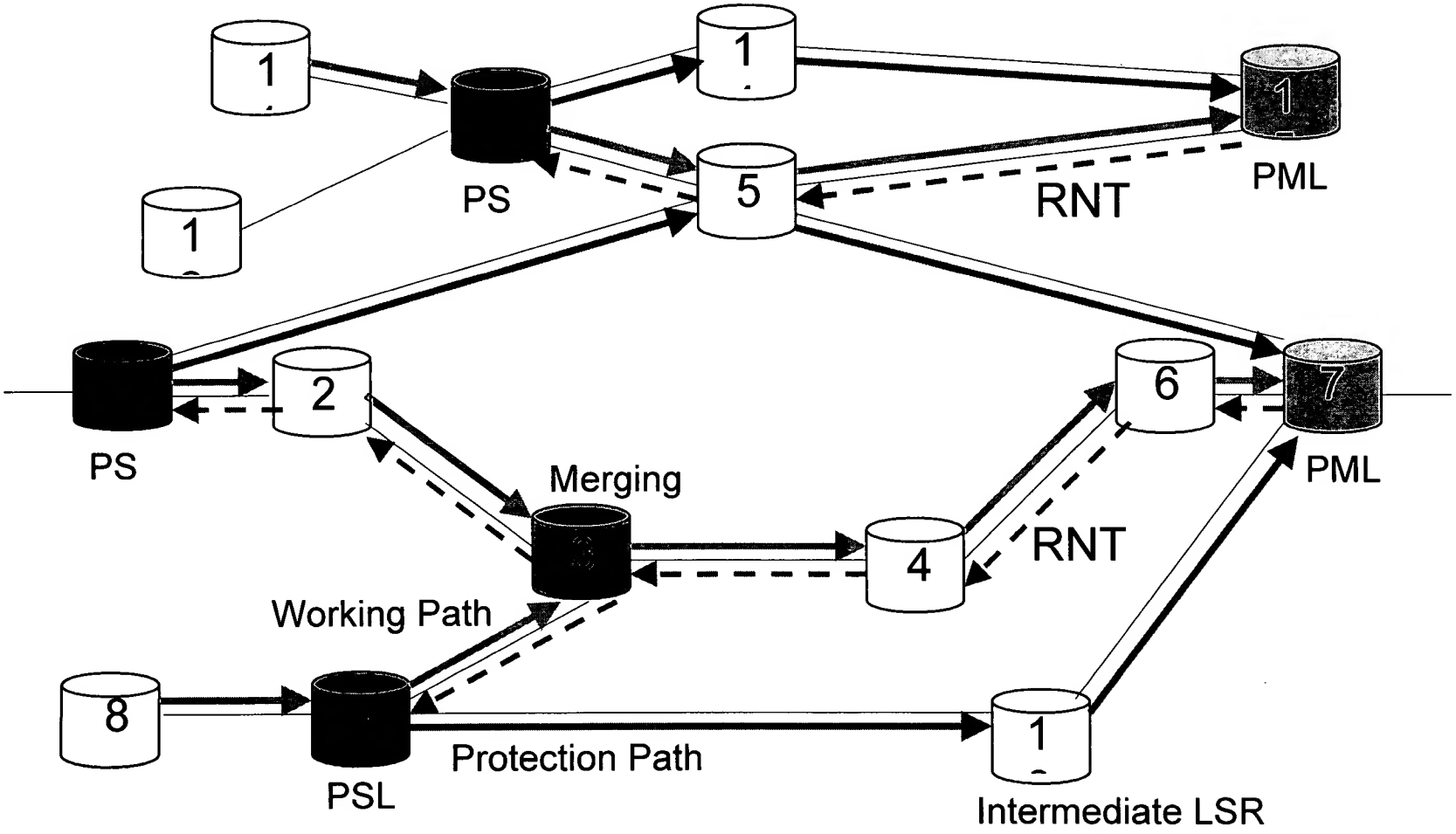

1
1
PS
1
5
1
PML
RNT
PS
2
6
7
PML
Merging
3
4
RNT
Working Path
8
PSL
Protection Path
1
Intermediate LSR

Figure 7

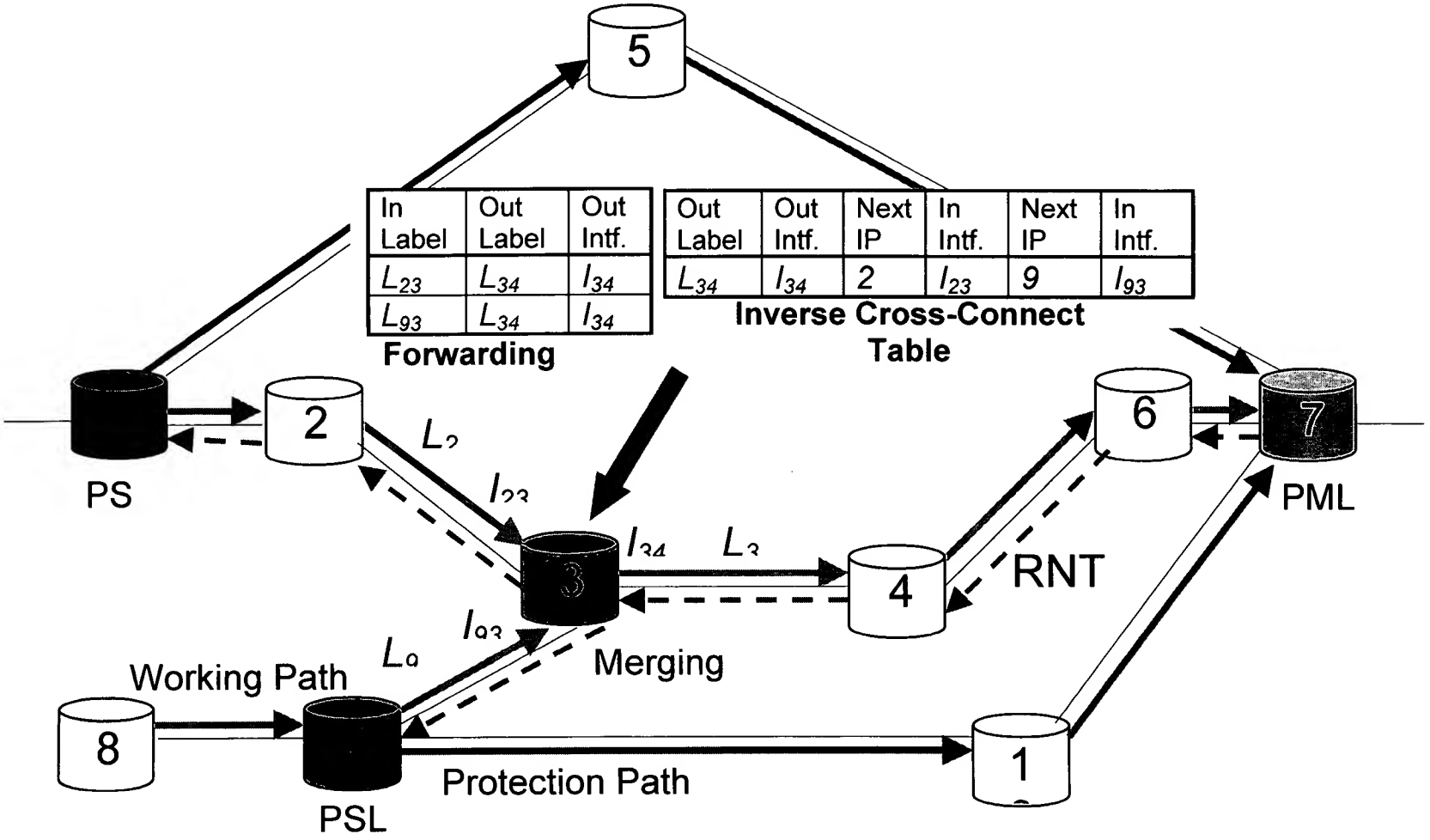

5
In Label
Out Label
Out Intf.
L_{23}
L_{34}
I_{34}
L_{93}
L_{34}
I_{34}
Forwarding
Out Label
Out Intf.
Next IP
In Intf.
Next IP
In Intf.
L_{34}
I_{34}
2
I_{23}
9
I_{93}
Inverse Cross-Connect Table
PS
2
L_2
I_{23}
3
I_{34}
L_3
4
RNT
6
7
PML
I_{93}
L_9
Working Path
Merging
8
PSL
Protection Path
1

Figure 8

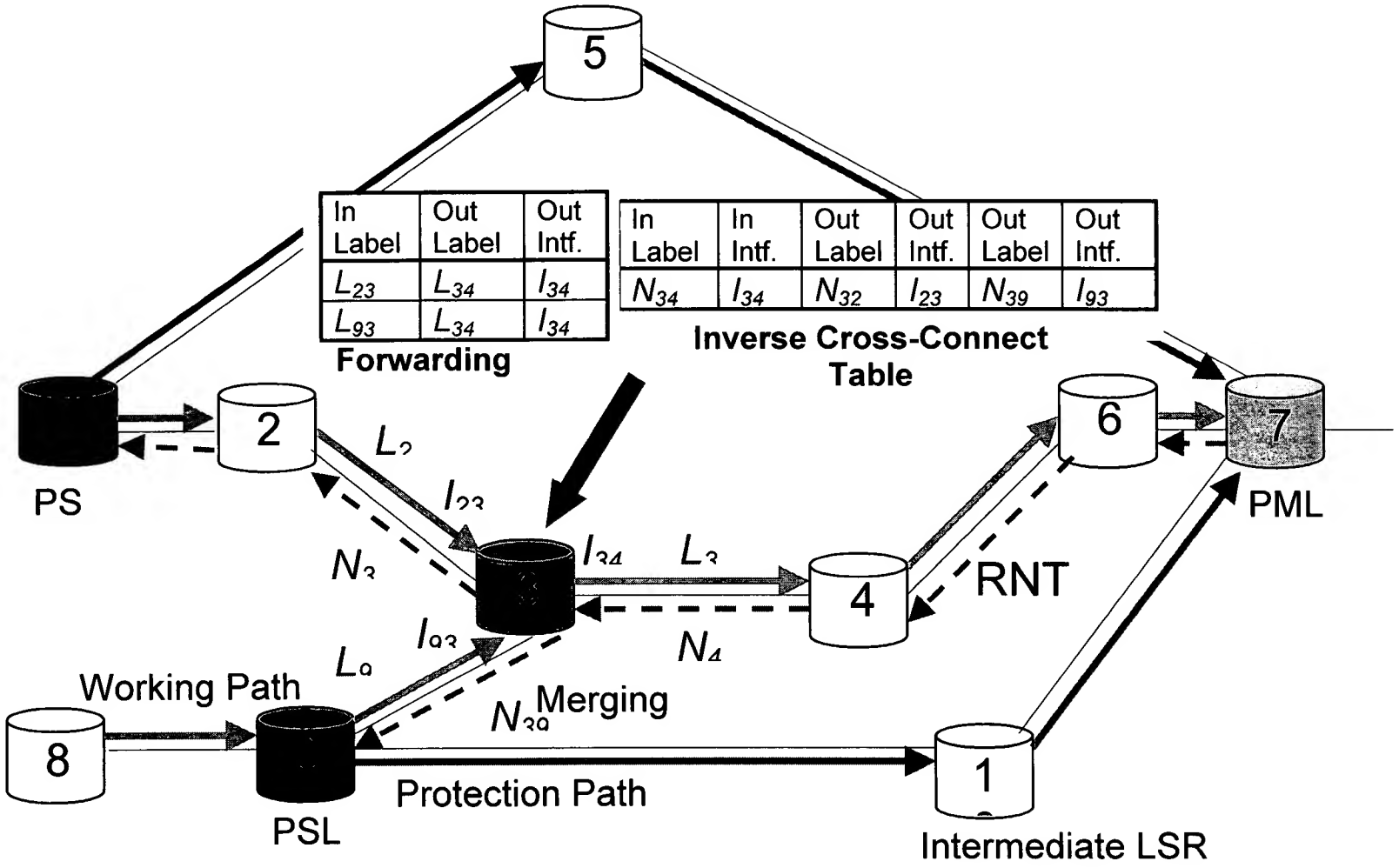

5
In Label
Out Label
Out Intf.
L_{23}
L_{34}
I_{34}
L_{93}
L_{34}
I_{34}
Forwarding
In Label
In Intf.
Out Label
Out Intf.
Out Label
Out Intf.
N_{34}
I_{34}
N_{32}
I_{23}
N_{39}
I_{93}
Inverse Cross-Connect Table
PS
2
6
7
PML
RNT
4
Working Path
8
PSL
Merging
Protection Path
1
Intermediate LSR

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Table A

Figure 9

Protection Mode	Revertive	Non-revertive
Protection Configuration	Dynamic	Pre-negotiated
Protection Activation	Local repair	Global repair
Protection Span	Segment	Entire LSP
Protection Trigger	Automatic inputs	External commands
Protection Options	1+1	1:1, 1:n, n:m

Table B **Figure 10**

Timer	Symbol	Function
Protection interval timer	T1	Controls the maximum duration within which a protection switch must be accomplished, following the detection of a failure.
Restoration interval timer	T1'	Controls the maximum duration within which a restoration switch must be accomplished, following the detection of fault-free operation of the working path.
Inter FIS packet timer	T2	Interval at which successive FIS packets are transmitted by a LSR to its upstream neighbor.
Max. FIS duration timer	T3	Max. time for which FIS packets are transmitted by an LSR to is upstream peer.
Inter FRS packet timer	T2'	Interval at which successive FRS packets are sent by a LSR to its upstream neighbor.
Max. FRS duration timer	T3'	Max. time for which the FRS packets are sent by an LSR to its upstream neighbor.

Table C

Figure 11

Timer	Symbol	Function
Protection dampening timer	T4	Time interval between receipt of a protection switch trigger and the initiation of the protection switch.
Restoration dampening timer	T4'	Time interval between receipt of a restoration switch trigger and the initiation of the restoration switch.
Liveness msg. send interval	T5	Interval at which successive Liveness messages are sent by an LSR to peer LSRs that have a working path (and RNT) through this LSR.
Failure Indication Hold-off Timer	T6	Interval between the detection of a failure at an LSR, and the generation of the first FIS message, to allow time for lower layer protection to take effect.
Lost Liveness msg. threshold	K	No. of Liveness messages that can be lost before an LSR will declare LF and generate the FIS.